

## Climate Action Team Final Report

DRAFT

### 1.1 Leading the Way: Implementing Practical Solutions to the Climate Change Challenge

As it always has, and yet like never before, our quality of life in the future depends on the choices we make today. The urgent issue we face today is how we will deal with the threats, challenges and opportunities from a changing climate. Deliberate, thoughtful and bold action is needed now, and for years to come, to reduce the impacts and costs of climate change, and build a healthier and more prosperous economy. The pressing imperative of the current global economic situation – and its root causes – only serves to reinforce the need for leadership that will seize this opportunity to transform our economy, expand our individual choices, and protect the environment. Through innovative policies and strategic investments like those recommended here by the State of Washington’s 2008 Climate Action Team (CAT), Washington State can reduce greenhouse gas (GHG) emissions, create business opportunities and jobs, and reduce dependence on imported fuels.

Building off of the CAT’s 2007 interim report, this report contains the “most promising” opportunities to reduce GHG emissions identified by the CAT for the Governor and the Legislature. In 2008, the CAT was charged by the Legislature to identify a focused, refined, and powerful set of actions that will enable Washington to address climate change. Led by its Co-Chairs,<sup>1</sup> the CAT chose to focus its 2008 efforts in four areas; transportation, the built environment, reducing the waste stream and the role of the State Environmental Policy Act (SEPA) in climate change. The actions recommended for these areas are designed to maximize the efficacy and efficiency of GHG emission reductions and make positive contributions to the development of Washington’s Clean Economy.

*[Insert a list of the recommendation titles]*

### 2007: Articulating the Comprehensive Climate Approach

These final recommendations build off the CAT’s 2007 interim report, *Leading the Way: A Comprehensive Approach to Reducing Greenhouse Gases in Washington State*.<sup>2</sup> In 2007, the Washington Departments of Ecology (Ecology) and Department of Community, Trade and Economic Development (CTED) formed the CAT to advise the Directors of Ecology and CTED on the full range of policies and strategies that should be considered in order to achieve the goals specified in Executive Order 07-02, issued on February 7, 2007, by Washington Governor Christine Gregoire.<sup>3</sup> The Executive Order established goals for reducing GHG emissions to 1990 levels by 2020 and 50 percent by 2050; increasing clean energy sector jobs to 25,000; and reducing expenditures on fuel imported into the State by 20 percent by 2020.

The CAT, a broad-based group of Washington business, academic, tribal, State and local government, labor, religious, and environmental leaders, worked throughout 2007 to develop a comprehensive set of state-level policy recommendations to address climate change. The CAT identified 12 targeted areas that together create the “Comprehensive Climate Approach” for Washington to minimize its GHG emissions and maximize its opportunities in the emerging Clean Economy. The CAT also identified 45 sets of

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<sup>1</sup>Juli Wilkerson, Director of Community, Trade and Economic Development, and Jay Manning, Director of the Department of Ecology

<sup>2</sup>[www.ecy.wa.gov/climatechange/CATdocs/020708\\_InterimCATreport\\_final.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/020708_InterimCATreport_final.pdf)

<sup>3</sup>[www.governor.wa.gov/execorders/eo\\_07-02.pdf](http://www.governor.wa.gov/execorders/eo_07-02.pdf)

mitigation strategies within the 12 areas representing the initial direction for a significant range of policies and programs that Washington could undertake now to reduce GHG emissions efficiently and effectively. This Comprehensive Climate Approach outlined by the CAT, if implemented in a complete and timely manner along with actions already taken by the State, would set Washington upon a path to achieve the State's goals by 2020, and on a path of declining GHG emissions to achieve the longer-term GHG emissions reduction goals. (For additional information about the CAT, including greater detail behind the CAT's complete suite of recommendations and its "Comprehensive Climate Approach", refer to the 2007 interim CAT report.)

## 2008: Recommending "Most Promising" Climate Strategies

The 2008 Legislature called for Washington to continue playing a leadership role in addressing climate change, and to develop the additional specificity needed to implement actions to realize the vision of a low-carbon future with economic opportunities for all Washingtonians. ESSHB 2815, *Creating a framework to reduce GHG emissions in Washington State*,<sup>4</sup> directed the CAT to continue its work and recommend "most promising actions to reduce emissions of greenhouse gases or otherwise respond to climate change." ESSHB 2815 codified the GHG reduction goals of Executive Order 07-02, and also added a fourth requirement: reduction of vehicle miles travelled (VMT) 18 percent by 2020, 30 percent by 2035, and 50 percent by 2050.

As in 2007, the 2008 CAT recommendations are built off the base of recent actions already taken by State government. These recent actions are expected to make significant contributions towards achieving the GHG emission reductions. Key among these actions are the vehicle tailpipe emissions standards enacted by the Legislature in 2005; I-937, which targets conservation and use of clean and renewable energy; several legislative and executive initiatives to promote biofuel production and use; green building and fleet efficiency standards for State buildings; building code enhancements; appliance standards; and renewable energy and energy efficiency requirements established by the federal Energy Independence Act.

The 2008 CAT consisted of those 2007 members interested in continuing to serve on the CAT, and additional members who were identified to meet membership requirements specified in the Executive Order and legislation, to provide specific expertise to fill gaps as indicated by the topic areas of the IWGs, and/or to otherwise round out and deepen the membership of the 2008 CAT. The Department of Transportation (WSDOT), the Department of Agriculture (DOA), and the Department of Natural Resources (DNR) joined the partnership of the CAT by becoming members of the CAT, convening workgroups and dedicating staff and resources to contribute towards this effort.

The recommendations laid out in this report represent the CAT's contribution to the Governor and the Legislature on how Washington can continue to take bold and thoughtful action to meet its 2020 GHG emission and VMT reduction requirements as established in ESSHB 2815. The final report from the State in response to ESSHB 2815, in which this CAT report will be incorporated, will contain a full accounting of the GHG emissions reductions potential not only for these actions recommended by the CAT, but also those actions already implemented in Washington and reductions from additional actions the State might take which the CAT has not focused on.

There remains much more to do within Washington to reduce GHG emissions. Meeting the State's goals for 2020 and beyond will be a challenge. Climate change is not a problem that lends itself to easy, simple or singular solutions, and despite their potential, the CAT recommendations alone will not get us there, especially since many of these recommended actions have not yet been initiated. The CAT's recommendations in this report point to some of the key opportunities to change direction and make the

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<sup>4</sup> <http://apps.leg.wa.gov/documents/billdocs/2007-08/Pdf/Bills/House%20Passed%20Legislature/2815-S2.PL.pdf>

necessary strategic choices over time, but it is imperative to act now. Many of the recommendations can be implemented in a sequence that has been laid out by the CAT. Most can at least be started in 2009. The Executive Branch and the Legislature should implement those CAT recommendations that it deems viable now while continuing to pursue opportunities in 2010 and beyond that together will result in full implementation of a Comprehensive Climate Approach, and move Washington towards a vibrant Clean Economy in a thoughtful and deliberate manner.

There is also much more to do outside Washington State to ensure that the GHG emission reductions needed worldwide to minimize the damaging impacts from climate change also actually occur. The actions recommended here are an important contribution that Washington can make in reducing GHG emissions; as importantly, these actions represent an opportunity for Washington to continue to provide leadership to the nation and the world. The critical response to the global climate challenge is, however, necessarily a global one. Washington State must and will continue to act, and we must also continue to demonstrate the leadership that will encourage others to join us. By demonstrating the political will to follow the pragmatic approach towards implementing significant changes as laid out in this report, Washington can continue to do its fair share and show the way to an effective global response to climate change.

## **1.2 Key Principles that Guided the CAT's Efforts**

Bold and significant action to address the current and future impacts of climate change must continue to be a critical priority for the State of Washington. This report is being written as Washington begins to feel the effects of a national and global economic crisis. These economic challenges are the toughest Washington has faced in recent history, and understandably, Washington's leaders and citizens will be focused on the immediate need to address our current economic situation. The temptation to delay action on climate change in light of these other challenges may be very real; but in fact, the impacts from climate change will only exacerbate economic disruption into the foreseeable future, while the opportunities associated with responding to climate change remain vibrant and, if pursued diligently, can create jobs that are vital to economic recovery and future vitality. Now more than ever, Washington's leaders and citizens must work together to invest in green economy jobs, minimizing expenditures on imported fuel, and reducing GHG emissions.

In its 2007 interim report, the CAT laid out its vision for a future in which the way we build and use our buildings and live in our communities require less energy; the production and use of carbon-based energy can be made more efficient and/or can utilize lower carbon alternative fuels; natural ecological systems are healthier and store carbon more effectively; government, business, labor and environmental advocates work together to support entrepreneurial creativity and economic opportunities for all; and citizens are given more choices to live sustainably in their communities.

The recommendations developed by the 2008 CAT continue to affirm this vision for the future. In this report, the CAT has worked to develop specific strategies that can be successfully implemented to contribute to that vision. As well, the CAT has identified a number of key principles and considerations that we used when developing the "most promising" actions for implementation:

- ***Do what is possible now; change what is possible to do.*** Washington must continue its practical focus on doing what is possible now, while changing what is possible to do in the future. For example, one of the CAT recommendations for the built environment advocates "doing what is possible now" by revising the existing Washington State Energy Code to achieve greater reductions in building energy through the application of existing remodeling, retrofit and equipment replacement practices. The CAT also proposes "changing what is possible to do" in Washington's built environment by establishing a long-term strategy for code revisions that will create the "Net Zero New Building sector" by 2030. This approach provides for near-term,

achievable advances in the energy code, and longer-term technical development of standards that anticipate and stimulate different building requirements and power systems.

- *Leverage existing systems and processes wherever possible to advance climate solutions rather than create new programs or procedures.* Many of the existing ways of ‘doing business’ can be improved to produce significant GHG emissions reductions, and do not need new programs to be successful. One of the CAT recommendations is for an Executive Order to establish an intergovernmental work group to evaluate and recommend revisions to state purchasing practices to ensure that government has the lowest possible environmental and carbon footprint. This is an opportunity to leverage the State’s existing buying power to achieve GHG emission reductions and to influence other government, business and individual consumers. Several recommended transportation strategies would expand the existing transit, rideshare, and commuter choice services available to the public. The CAT also makes recommendations to clarify SEPA processes and guidance in order to minimize needless climate change-related lawsuits.
- *Look for opportunities to encourage systemic, transformational changes to a low-carbon community and economy, not just focus on case-by-case actions.* ‘Tipping’ points’ where changes in goals, practices and/or outcomes can make a wholesale improvement and leverage many subsequent decisions affecting GHG emissions should be targeted. Examples from the CAT recommendations include establishing a market for organics that would provide financial incentives to develop these resources into products rather than continuing to waste them, and pursuing transportation pricing strategies as a broad approach to addressing both increasing costs and declining revenues in the transportation sector.
- *Tailor policy interventions and decision-making to the place in the process where they can be most efficient and cost-effective.* Strategic action to re-direct resources, implement system improvements, and make the critical investments necessary to address climate change should be taken where they can most efficiently and cost-effectively shape governmental, business and consumer choice. This approach can also provide certainty on both how to reduce emissions and on how reductions can be achieved. Several recommendations move action “up the decision stream” to where it makes the most sense. The recommended Product Stewardship Framework provides incentives and a system for designing products with less waste and fewer GHG emissions throughout the life cycle of the products. Recommendations for “leveraging SEPA” to encourage “climate friendly” development moves SEPA up the decision-chain, and “upfront” SEPA analysis of plans reduces subsequent project specific analysis and provides exemptions based on this earlier planning. Recommendations for compact and transit oriented development are also designed to make it easier for people to make “climate friendly” lifestyle choices by increasing the choices and options available.
- *Focus on both the near- and long-term — pursue policies that are foundational investments for long-term change and at the same time achieve near-term GHG emission reductions.* A primary focus of the CAT’s recommendations are the “most promising” next steps for Washington to take in the near-term; however, several of the recommendations also establish important direction towards meeting the State’s long-term goals for GHG emission and VMT reductions. Recommendations for improving the energy efficiency of existing, new, and renovated public buildings, and optimizing the solid waste collection system in order to address the “other 50 percent” of the waste stream not currently recycled both highlight short-term GHG emission reductions benefits and establish commitments to the longer-term structural shifts necessary to achieve the State’s goals. Many of the CAT’s recommendations in specific areas can be sequenced to ensure successful implementation in both the short and long term.
- *Design and structure programs so that direct users and beneficiaries pay for their choices and receive the benefits.* Many of the CAT’s recommendations are also designed so that the direct

users and beneficiaries pay for their choices, reducing the net social costs of these strategies, while ensuring that any benefits also go to those who pay for the initial investment and/or choice. For example, the CAT's recommendation to expand implementation of distributed energy, Combined Heat and Power (CHP), and renewable energy, results in a cost savings for those who make the investment for CHP implementation alone at \$317 million dollars between 2008-2012 on a net present value basis. In addition, CHP projects developed in compliance with the renewable energy targets in I-937 would get double credit for all projects. Recommendations to pursue transportation pricing are also based on the idea that those who use the transportation services directly pay for their choices. Recommendations that move SEPA planning up the decision chain are designed to allow for the investment in upfront planning, which is then recovered by making those who pursue subsequent developments which are exempt from SEPA reimburse cities and counties for the upfront planning costs.

- **Reprioritize and develop resources to adequately fund climate solutions.** Accepting the urgency to tackle climate change requires reprioritizing budgets, raising the revenues, and/or appropriating the funding necessary to accomplish the work needed to stimulate both government and business to respond meaningfully and successfully. There is a critical need for adequate financial resources for local and tribal governments to fulfill their responsibilities associated with these recommendations, since many require local implementation or site-specific attention to be successful. The State must also be allocated sufficient resources to stay a leader regionally and nationally, and to fulfill its responsibility in implementing these emission reduction strategies.<sup>5</sup>

## Changing Our Land Use and Development Patterns Is Crucial for Success

The CAT recommendations emphasize the importance of land use decisions, transportation choices, and development patterns working together to achieve the GHG emission and VMT reduction targets specified in ESSHB 2815. This imperative is apparent within and across a number of the strategies recommended by the CAT, as well as recommendations emerging from several other efforts. Land use policies that reduce GHG emissions and VMT also support key infrastructure investments and transportation improvements, are critical to attract and retain economic development to Washington.

Broadly, these various efforts share the goal of promoting denser development in urban areas. This can be accomplished by encouraging well planned density/infill, providing housing in close proximity to jobs and services, establishing necessary infrastructure and essential public facilities for a high quality of life, and maximizing access to affordable public transportation and other mobility options. The many benefits to be realized from compact urban development include VMT and GHG emissions reductions, and also reduced dependence on imported fuel; increased carbon retention from working farms; and conservation of forestland.

The CAT has recommended several strategies that support climate-oriented land use and development through its Transportation, EEGB and SEPA IWGs. (For details, see the specific recommendations for each area, below.) Several other recent efforts underway in Washington have also addressed key elements of the implications of land use and development patterns on climate, and have recommended measures that shape these policies and investments to advance climate-oriented goals. This includes both the Agriculture Carbon Market Workgroup and the Forest Carbon Market Workgroup chartered under the direction of ESSHB 2815, *Creating a framework to reduce GHG emissions in Washington State* (for more information, see the State's final ESSHB 2815 report), is recommending a number of actions that

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<sup>5</sup> This reaffirms the 2007 CAT "Headline" (#12): "Allocate sufficient State resources to maintain Washington's leadership role regionally and nationally and to fulfill its responsibilities for structuring and guiding implementation of emission reduction strategies."

will emphasize compact urban development, multi-modal transportation and avoiding forest land conversion through use of tools such as transfer of development rights (TDRs). The work of CTED's Transfer Development Rights (TDR) Policy Advisory Committee, chartered by *[insert bill title and number, reference]* to develop a central Puget Sound TDR program, is also being affirmed by several workgroups and other efforts.

The objectives of these various strategies and recommendations resonate across and reinforce a number of other significant public policy initiatives in Washington, such as the Puget Sound Partnership, a community effort of citizens, governments, tribes, scientists and businesses working together to restore and protect Puget Sound. In working towards a clean and healthy Puget Sound ecosystem and a thriving Puget Sound economy, the Puget Sound Partnership has identified current land use patterns as a significant stressor on the Puget Sound, and the need to build denser, livable communities, to stop conversion of working forests and farms and to protect and restore natural ecological systems as critical elements for restoring Puget Sound. *[If correct and verifiable by the time the CAT's report is completed, the following sentence would be inserted:]* The PSP's land use-related recommendations are consistent with the recommendations from the CAT concerning transportation choices and the use of SEPA to promote well-planned urban development.

Many CAT members have been active participants in these other efforts, and the CAT as a whole is cognizant of their efforts. The CAT believes that the recommendations and decisions coming from these other efforts also represent options to reduce climate impacts and reinforce the CAT's recommendations in these crucial areas. As importantly, they all highlight just how important it is for the State to recognize the importance of incorporating climate considerations into land use planning, development patterns, and transportation-related decisions.

### **1.3 “Most Promising” Actions to Reduce Greenhouse Gases**

The recommendations contained in this report have been developed under the direction of the CAT and the CAT affirms them as the strategies and opportunities that represent the “most promising” actions within specific areas to move forward in 2009 and beyond to help meet the targets for reducing GHG emissions and VMT in Washington State as laid out in ESSHB 2815. The CAT believes that if enacted, these recommendations can enable significant reduction, sequestration, and removal of GHG emissions and VMT reductions.

The recommendations below exhibit a range of implementation “readiness”. Some can be implemented by the Executive Branch now while others need authorization and/or funding from the Legislature. Some are accompanied by draft statutory language while others still need additional effort to iron out critical details. Some reflect how to impact specific programs right here and now while others identify broader policy changes that surely will engender further discussion and debate beyond the CAT. As any of these recommendations actually move toward implementation, there will inevitably and appropriately be “give and take” on the best way to accomplish this. The CAT looks forward to this next step happening since the CAT acknowledges that additional work may well be needed for some of these strategies. This further effort, if deemed necessary and actually accomplished, validates that continuing to work on implementing these strategies is what the State needs to do. The CAT and its individual members are willing to help with the next steps needed to get these recommendations implemented.

### **Implementation Work Groups**

Through Implementation Work Groups (IWGs), the CAT focused on a small number of strategic opportunities within specific areas that could be implemented in order to contribute significantly towards reducing GHG emissions and VMT. The IWGs were the locus of deliberate and constructive engagement for the purpose of creating these implementable strategies. The range of expertise and number of interests involved in the IWGs was considerable and contributed to the depth and detail in the strategies that the

various IWG's were able to accomplish in a very short period of time. The IWGs were comprised of individual CAT members, and other experts and interests appointed by Ecology and CTED needed to perform the tasks described. Over 100 people participated in this work of the CAT as members of the IWGs, and included representatives from tribal and local governments, builders and developers, faith-based organizations, environmental advocates, lawyers, haulers and recyclers, auto dealers, engineers, and transit and bicycle advocates, among others. Substantive topics and goals for the four IWGs were initially identified by the CAT Co-Chairs, based on a review of the comprehensive 2007 CAT recommendations and the direction coming from the 2008 Legislature, and considered and affirmed by the CAT as the focus of their work for 2008. Each IWG then developed its work plan, reviewed by the CAT, which identified the specific actions the group would focus on to flesh out most promising recommendations in its area. The basic goals of each IWG were as follows:

- **Energy Efficiency and Green Buildings:** The goal of the Energy Efficiency and Green Buildings (EEGB) IWG was to achieve significant emission reductions in Washington's built environment, both directly through reduced use of carbon-based energy as well as indirectly by reducing the use of GHG-intensive products. This IWG also aimed to strengthen the energy efficiency and green building sectors, and thus contribute directly to the clean energy job goals articulated in Executive Order 07-02.
- **Beyond Waste:** The goal of the Beyond Waste IWG was to significantly expand source reduction, reuse, recycling and composting and build on what is best and most successful in the current waste management system by targeting products and organic materials with the largest GHG emission reduction potential. This IWG focused on both reducing the amount of waste that Washingtonians produce, and increasing the amount of recycled material that is otherwise discarded.
- **Transportation:** The goal of the Transportation IWG was to achieve significant reductions in transportation-related GHG emissions, which account for nearly half of total emissions in Washington State, and to recommend tools and best practices to achieve the VMT reduction goals enacted in ESSHB 2815.
- **SEPA:** The goal of the SEPA IWG was to ensure that consideration of climate change is included in the State Environmental Policy Act (SEPA) processes and guidance in a clear and straightforward manner that minimizes lawsuits over this issue and contributes to understanding and mitigating GHG emissions resulting from activities covered under SEPA. This IWG focused on developing recommendations that clarify how, where, and when to best address climate change in state and local governments' SEPA processes and decisions.

Over the course of the IWG's deliberations, the CAT provided input, suggested needed analysis, and affirmed the recommendations. Over the course of five months, each IWG held multiple meetings and accomplished a tremendous amount of work, the details of which are contained in the individual IWG reports located in the appendix of this report. IWG members demonstrated an impressive commitment to this effort, and the IWGs' success is primarily a function of this dedication and hard work. Each IWG also had two to three co-leads, who were instrumental in guiding each IWG to the successful completion of their charge.

The following are the [##] recommendations that the CAT is making as its contribution to meeting the State's GHG emission and VMT reduction targets. This set of recommendations serve to specifically further "flesh out" and reinforce most of the 12 directional recommendations from the CAT's 2007 interim report. These directional statements, called "Headlines" in the 2007 report, were designed to articulate the path which the State should take to meeting its GHG emission goals. The 2008 CAT recommendations are specific expressions on how these 2007 CAT "Headlines" can be pursued and represent a further delineation of the explicit path forward that Washington should follow to develop a more robust economy, provide good jobs, improve Washington's position in the global economy, reduce dependence on imported fuel and build healthier, more sustainable communities.

An introductory context for each specific area examined by the IWG is first provided below, followed by high-level summaries of the specific recommendations for that IWG. The full details of the recommendations are contained in the IWG reports, appended to this report.

## **Energy Efficiency and Green Buildings**

Given the long-lived nature of the built environment, building and community design decisions will have a profound impact on Washington's ability to meet its longer-term emission reduction targets. By 2030, new buildings constructed in the preceding two decades will account for 20 to 25 percent of the commercial building floor area and will account for more than 20 percent of the housing units. Over the same 20-year period, it is expected that most existing buildings will undergo some level of renovation, install new equipment, and will add or replace many energy using devices. In developing policies to increase energy efficiency of new and existing buildings, the EEGB IWG has developed a set of policies that also aims to strengthen energy efficiency and green building industries, as well as contribute to the clean energy job goals articulated in the Governor's Climate Change Challenge.

The EEGB IWG has developed a set of actions incorporating both near-term opportunities to increase building energy efficiency and long-term strategies to further develop Washington State's ability to meet emission reduction goals. Near-term strategies including an upgrade to the building energy code to achieve a 30 percent reduction in energy use (EEGB Recommendation 3, part 1) and strengthening current high-performance public buildings legislation to extend the green building standards for the public sector (EEGB Recommendation 2). The EEGB IWG has developed legislation designed to use incentive-based approaches to motivate and accelerate the design, construction, and annual operation of buildings to levels of superior energy performance (EEGB Recommendation 1A), and to encourage the incorporation of Combined Heat and Power (CHP), distributed electricity generation, and other distributed and district energy systems, including district heating and cooling (EEGB Recommendation 1B). Over the long-term the EEGB IWG has proposed legislative action to develop and implement a State Building Efficiency and Carbon Reduction Strategy to guide the continued improvement of the energy performance of the State's building stock over the longer term (EEGB Recommendation 3, part 2).

The recommendations developed by the EEGB IWG are consistent with and incorporate the goals of the Climate Advisory Team's 2007 Report "Headline" #8, "Design, build, upgrade, and operate new and existing buildings and equipment to maximize energy efficiency", and also, especially through the longer-term goals associated with Actions 2 and 3, incorporate elements of the Climate Advisory Team's Headline #9, "Deliver energy from lower or non-carbon sources and more efficient use of fuels".

These recommendations focus on achieving reductions in carbon emissions through increased energy efficiency of new and existing buildings in the private and public sector. Recommended standards for green buildings link to climate change actions taken in the Transportation and Beyond Waste areas, through increasing transportation options to buildings, as well as directing CTED to incorporate embodied energy criteria in selection of standards eligible under incentive programs.

The recommended Energy Efficiency and Green Building actions are summarized below. Please see the full EEGB IWG report in appendix [##] for additional detail on these recommendations.

## EEGB Recommendations – Short and Long Term Efficiency Improvements

### 1) Energy Efficiency Incentives

This recommendation is for legislation designed to use incentive-based approaches to motivate and accelerate the design, construction, and annual operation of buildings to levels of superior energy performance (Recommendation 1A), and to encourage the incorporation of combined heat and power, distributed electricity generation, and other distributed and district energy and water systems, including district heating and cooling (Recommendation 1B). This approach would reward actual demonstrated energy performance with tax credits.

#### **1A: Energy Efficiency Quality Investment Program (EEQUIP)**

Near-term high priority legislative concepts for this recommendation include:

1. An energy benchmark (e.g. energy use/square foot) public disclosure requirement for non residential buildings at time of sale or, in some circumstances, at time of lease.
2. Public Utility Tax (PUT) credits for non-residential buildings that meet specific levels of energy performance based on actual utility data, with 50 percent of the PUT credit supplied by the utilities serving the building.
3. A modification of statutory language related to Local Improvement Districts (LID) that adds energy efficiency as a qualifying activity.

Other most promising future legislative concepts for this recommendation include:

1. Partial sales tax refunds for new non-residential buildings that achieve energy performance standards equivalent to an ENERGY STAR Target Finder rating of 90.
2. Partial sales tax refunds for new and existing residential buildings that meet a level of energy performance equivalent to an ENERGY STAR Northwest-rated home.

The concepts incorporated into this recommendation are designed to work with familiar and accessible programs of merit (e.g. LEED, ENERGY STAR, Built Green or other verifiable third-party or independent certifications) that have gained acceptance by the commercial and residential buildings market. In addition, standards to qualify for incentives become increasingly stringent over time, so as to drive the market in Washington toward progressively more energy-efficiency building design, construction, and operation.

#### **1B: Expanded Implementation of Distributed Energy and Water, Combined Heat and Power (CHP) and Renewable Energy**

Complementary to Recommendation 1A, this recommendation offers tax incentives to encourage the development and use of CHP and other distributed energy systems potentially including B&O (business and operations) Tax credits, Public Utility Tax credits for buildings and industries that use CHP/distributed energy systems, sales tax exemptions on machinery and equipment used in CHP/distributed energy systems, and property tax exemptions for distributed energy and water systems. In the short term, sales tax exemptions on purchases of equipment used in distributed energy and water systems—consistent with the existing manufacturing and retail sales tax and use exemptions (which include exemptions for CHP systems used in manufacturing)—will be the most straightforward to implement. This recommendation also includes:

- Efficiency requirements for CHP systems.
- Similar eligibility criteria for incentives for other distributed energy systems would be set by CTED based upon the effectiveness of the system and incentive models established for CHP.

- For district water projects, set a baseline fractional water demand reduction to receive incentives, with a tiered approach so that progressively higher percentage reductions qualify for higher incentives<sup>6</sup>.
- Addressing barriers to implementation of distributed energy systems, including barriers to interconnection with the electricity grid, issues associated with dispatching of generation resources, split incentives between project owners and tenants, and issues associated with compliance with local and state regulations.

## Impacts on Goals

These legislative concepts are designed to use incentive-based approaches to motivate and accelerate the design, construction, and annual operation of buildings to levels of superior energy performance. The reward through tax credits for actual demonstrated energy performance is innovative and critically important to achieving the state's overall greenhouse gas reduction and quality job creation goals, outlined in Executive Order 07-02. Overall this recommendation (components 1A and 1B together), implemented at the levels of revenue impacts shown below, is estimated to provide a net reduction in greenhouse gas equivalent of *[to be inserted when analysis is complete]* million tonnes of carbon dioxide equivalent between 2009 and 2020.

## Costs

Preliminary estimates of revenue impacts include: Priority proposal: \$750,000 for PUT refund with participation of 28 million sq. ft. of commercial property; Future legislative proposals: \$3.75 million for sales tax refund for non-residential new construction, between \$5-10 million per year for sales tax refund for existing and new residential buildings, and *[to be inserted when analysis is complete]* million per year for sales tax refunds for distributed energy systems. Overall, this recommendation implemented at the levels of revenue impacts shown here, is estimated to provide a net savings to the people of Washington of *[to be inserted when analysis is complete]* million dollars between 2009 and 2020, on a net present value basis.

## Other Impacts

Utility cost sharing of the PUT credit element of this recommendation provides opportunities for utilities to meet I-937 targets, while reducing the burden of this action on state revenues.

## 2) Energy Efficiency in Existing, New and Renovated Public Buildings

Legislative action is recommended to substantially upgrade the energy efficiency and sustainability of publicly-constructed and -operated buildings, including both new and existing buildings. Key elements of the proposed legislation, which has different provisions for State agencies, colleges, universities and school districts and for cities, counties, and other taxing authorities, would include:

1. Require a process of benchmarking, auditing, and implementation of energy-efficiency measures in existing publicly-constructed and -operated buildings, with energy-efficiency requirements becoming more stringent over time in a tier/phased approach<sup>7</sup>.

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<sup>6</sup> Please note that this suggested element has not yet been reviewed by the full EEGB IWG

<sup>7</sup> Many of the tiering and phasing approaches in this and other recommendations include applying requirements to larger buildings first, including smaller buildings over time, and gradually increasing the stringency of the design and performance criteria. This allows the public sector to gain implementation experience, take advantage of future technology improvements, and have a clear planning schedule.

2. Require that new and substantially renovated publicly-constructed and –operated buildings meet strict energy performance standards, again with energy-efficiency requirements becoming more stringent over time in a tier/phased approach.
3. Emphasize education and promotion as critical components to the success of the program.
4. Implementation will emphasize the use of existing programs and funding in state and local governments.
5. Partnering with US EPA’s ENERGY STAR program is a critical element and has been initiated.

## Impacts on Goals

This recommendation is estimated to provide a net reduction in greenhouse gas equivalent of 6.0 million tonnes of carbon dioxide equivalent *[result to be updated when analysis is complete]* between 2009 and 2020, and will contribute substantially to growth in green jobs in Washington.

## Additional Benefits

With the 2005 passage of Chapter 39.35D RCW High-performance public buildings, Washington State stepped forward as a national leader in public sector green building projects. As the mandate has seen implementation, areas that can increase the energy-conserving attributes of these buildings have become known. This proposal aims at increasing the strength of the legislation as it currently exists, ensuring that green public buildings are operated and maintained in such a way as to meet the energy goals of the projects, and set the stage to address issues related to embodied energy as focus shifts to building products.

Because this proposal builds on existing legislation that has seen success, it is primarily a revision to a statute with agency and public momentum. This proposal will ensure that public buildings (new/renovated) prioritize energy efficiency credits offered in green building standards and help to build the market for regionally produced green building materials, as well as green building services.

## Costs

Existing programs will be utilized as much as possible, however, it is recommended that a professional level staff member be provided to each of the following agencies: Ecology (for local governments), Dept. of General Administration (for State agencies, colleges and universities), and Office of the Superintendent of Public Instruction (for K-12 Schools). This is needed to implement these efforts across all public sector entities. Overall, this recommendation is estimated to provide a net savings to the people of Washington of 195 million dollars *[result to be updated when analysis is complete]* between 2009 and 2020, on a net present value basis.

## Other Impacts

Resources available at the state level to support local and regional government efforts in improving building energy efficiency will need to be expanded in order to meet the demands of programs implemented under this recommendation.

## 3) State Energy Code Improvements and Establishment of 2030 Building Goals

This recommendation includes two major elements: a revision to the Washington State Energy Code (WSEC) to achieve 30 percent reduction in new building energy use relative to the 2007 edition of the WSEC and a long-term State Building Efficiency and Carbon Reduction Strategy.

1. In the 2009 Washington State Building Code adoption cycle, revise the Washington State Energy Code (WSEC) to achieve a 30 percent reduction in new building energy use compared to the 2006 edition of the WSEC. In addition, provide substantial efficiency advances in the code as it applies to remodeling, retrofit and equipment replacement, specify a process of periodic review and improvement of building energy codes, consider the impacts of codes on the availability of incentives through utility demand-side management programs, and provide education and technical assistance in the implementation of updated codes.
2. Legislative action is recommended to provide policy direction in the development and implementation of a long term **State Building Efficiency and Carbon Reduction Strategy**. Legislation would direct CTED to develop a 2010 State Strategy for Building Energy Efficiency and Carbon Reduction, which would include establishing specific targets for building energy use intensity and target for new buildings similar to the Architecture 2030 Challenge schedule. This strategy would examine several implementation methods including: state codes and appliance standards, emerging technologies, user incentives, education and technical assistance, and measurement. It is recommended that the strategy be updated every three years prior to the routine state building code review development and adoption process.

## Impacts on Goals

This recommendation is estimated to provide a net reduction in greenhouse gas equivalent of 24 million metric tons of carbon dioxide equivalent *[result to be updated when analysis is complete]* between 2009 and 2020. By setting out a long-term strategy to produce buildings that are highly energy-efficient and use renewable resources to meet their energy needs, this recommendation will contribute substantially to growth in green jobs in Washington.

## Costs

Some additional costs will be required at the local government levels for enforcement of new building codes, and at the state level for support of local jurisdictions in enforcing codes and in preparation of the State Building Efficiency and Carbon Reduction Strategy. Additional outlays will be required to set up and run education/training programs needed to support code officials, architects/engineers, builders and others in compliance with revised building energy codes. Overall, this recommendation is estimated to provide a net savings to the people of Washington of 809 million dollars *[result to be updated when analysis is complete]* between 2009 and 2020, on a net present value basis.

## Beyond Waste

Through the waste reduction and recycling efforts of the last 20 years, Washington now diverts about 48% of solid waste generated in the state to reuse, recycling and beneficial use applications. While precise results for the total GHG reductions this represents are unavailable, the potential is estimated at several million metric tons of carbon dioxide equivalents (MMTCO<sub>2</sub>e) per year. *[Insert equivalency chart in appendix for reference]* Pursuing the strategies recommended here to reduce and recycle “the next 50%” of solid waste in Washington will result in further reductions of at least 6 MMTCO<sub>2</sub>e per year. Because materials and products are produced around the world, not all of these reductions will occur in Washington State; however, the environmental impacts of our consumption are global and so are the effects of efforts to reduce those impacts.

The charge given to the Beyond Waste Implementation Working Group was to recommend ways to significantly expand source reduction, reuse, recycling and composting and build on what is best and

most successful in current waste management system by developing an implementation plan targeting products with the largest GHG reduction potential.

The following materials were targeted as have significant greenhouse gas reduction potential:

- Paper (2.7 MMTCO<sub>2</sub>e potentially available)
- Organics ( 0.8 MMTCO<sub>2</sub>e potentially available from food waste alone)
- Metals (At least 1.3 MMTCO<sub>2</sub>e potentially available)
- Construction and Demolition Waste (1 MMTCO<sub>2</sub>e in carpet alone)
- Plastics (0.1 MMTCO<sub>2</sub>e from plastic bottles alone)
- Contaminants (GHG reduction potential is not known, however, contaminants reduce the recyclability of the targeted materials above).

There is additional potential to realize 0.75 MMTCO<sub>2</sub>e through anaerobic digestion of dairy wastes. This potential becomes greater if organic materials from farms and food processing also is digested.

The solid waste management system is part of larger systems of materials use. Materials are extracted, turned into products, used and then disposed. The solid waste system has traditionally focused only on the last point in this stream – disposal. Recycling has been demonstrated to be an effective strategy to reduce the impacts of disposal. It is now also recognized as an effective tool to reduce the upstream impacts of extraction, production and use. The recommendations keep these farther reaching benefits in mind.

The climate change action agenda demands a shift in our economy. The traditional “dig and dump” economy relies heavily on resource extraction and waste disposal. The new “sustainable” economy will rely on resource conservation and materials reutilization. A robust recycling system is key to making this new economic system work.

The Beyond Waste recommendations focus on

1. Optimizing the collection system for recyclable materials,
2. Creating a product stewardship program, and
3. Providing incentives for organic materials use.

Future work is also recommended that focuses on

4. Environmentally responsible purchasing by state and local governments, and
5. Working collaboratively with the retail industry to encourage waste reduction and recycling.

The recommendations developed by the Beyond Waste IWG are consistent with and incorporate the goals of the Climate Advisory Team’s 2007 Report “Headline” #11, “Reduce waste and Washington’s emissions of GHGs through improved product choices and resource stewardship.”

The recommended Beyond Waste actions are summarized below. Please see the full Beyond Waste IWG report in appendix [##] for additional detail on these recommendations and other ideas, including discussion of a sustainable design institute and tax incentives for use of recycled materials.

## **Beyond Waste Recommendations – Capturing the Next 50% of Waste Reduction and Recycling**

## **1) Optimize the Collection of Recyclable Materials**

In order to optimize the collection of recyclable materials, source separation of solid wastes by residential and commercial generators into at least three categories should be required: recyclable materials and products, organic materials, and residual solid wastes and optimize the collection of recyclable materials and products, organic materials, and construction and demolition debris to meet a new recycling goal of 80% by 2020.

### **Description**

- The fundamental strategy to achieve this goal is to require source separation of solid wastes by residential and commercial generators into at least three categories: recyclable materials and products, organic materials, and residual solid wastes.
- Recyclable materials include at a minimum recoverable paper, container metals, container glass (with some exceptions) and plastics (number 1 and 2). Organics include at a minimum yard, garden and food wastes.
- Residential generators must separate their wastes and participate in provided collection services.
- Commercial generators must separate their wastes and can select their recycling service provider.
- Local governments would be required to update their local comprehensive solid waste management plans on a phased schedule based on population size and location or contract renewal, describing the services that will be provided. Implementation may be phased as well. Participation by small rural counties and small population areas is optional.
- As part of the local plan, affected local governments are to develop reuse and recycling policies for construction and demolition wastes.
- Financial and other incentives need to be adequate to provide the private sector capital to invest in the infrastructure needed to support this action.
- This recommendation is complementary to the organics management recommendation and the product stewardship framework recommendation.

### **Impacts on Goals**

There is at least an additional 4.1 MMTCO<sub>2</sub>e available to be reduced if the remaining available paper, metal and plastic were recycled in Washington State. Based on generation trends and anticipated population growth, this number will be much higher in 2020. This is equivalent to removing 790,000 cars off the road, annually.

This action will create more green collar jobs in industries that collect process and use recycled materials.

### **Additional Benefits**

Optimizing use of collection services will result in fewer personal vehicle trips to transport recyclables or self-haul solid waste, contributing towards reduction in VMT.

The climate change action agenda demands a shift in our economy. The traditional “dig and dump” economy relies heavily on resource extraction and waste disposal. The new “sustainable” economy will rely on resource conservation and materials reutilization. A robust recycling system is key to making this new economic system work.

### **Costs**

Recycling of “traditional” recyclables has proven to be more cost effective than disposal. Recycling costs less than disposal given that disposal fees are avoided and that marketing of recyclables generates revenue. The cost of collection remains, in either case.

Costs will be borne by users (waste generators), not government. This is a “pay as you go” proposal. Costs to state and local government for planning, monitoring, public education and enforcement must include an identified funding source.

When successful, this strategy could result in reduced revenue collected by the Solid Waste Collection Tax which could impact the Public Works Assistance Account. Efforts are needed to assure revenue neutrality on this account.

### **Relationship to Other Efforts**

This action relies completely on the ability of local governments and the private sector to work collaboratively to provide services to the public.

## **2) Product Stewardship Framework Legislation**

This recommendation calls for legislation that would make producers of covered products responsible for their products from cradle-to-grave, as those products are determined to be problematic from a reuse, recycling, or disposal point of view.

### **Description**

- Minimize the environmental and health impacts of products throughout all stages of their lifecycle, including GHG emission impacts. (46% of U.S. GHG production is the result of products according to EPA.)
- Place responsibility to reduce those impacts on those that have the greatest ability to influence product design, manufacturing and use – primarily the producer.
- Producers plan, provide, finance and report on systems to collect, transport and recycle covered products. Ecology would designate covered products and establishes guidelines for producer programs. The law is not prescriptive; it allows manufacturers flexibility in designing and providing the program.
- Potential initial products include carpet, mercury-containing lighting and thermostats, paint and rechargeable batteries. A stand-alone bill for mercury-containing lighting has also been drafted to show how the product stewardship approach could be used to address a single product.

### **Impacts on Goals**

This action would significantly reduce GHGs. There is a two-fold benefit to product stewardship. First, there is a large potential to increase the recycling and diversion of products that are currently being disposed, resulting in reduced GHG emissions. Second, there is a significant potential to reduce GHG emissions throughout the product production process and supply chain. For example, a product stewardship program that recycled carpet could reduce GHG emissions in WA by up to 897,000 tons CO<sub>2</sub>e (assuming 80% recycling). Product stewardship programs also can provide a convenient system for proper handling of mercury-containing lighting (such as CFLs) and mercury-containing thermostats. Significantly, the availability of these recycling systems will enable people to responsibly switch to energy-efficient lighting and programmable thermostats; such shifting will reduce GHG emissions by 1,120,000 tons.

### **Additional Benefits**

Product stewardship also:

- Provides a recycling solution for energy efficient products that contain mercury.
- Provides incentives to design greener products.

- Complements, and may utilize, collection programs for traditional recyclables.
- Directly addresses the 2007 CAT's recommendations.
- Creates jobs.
- Responds to citizens that want stewardship programs.

## **Costs**

Producers – not state or local governments – would set up and pay for the recycling programs.

Residents want recycling programs, especially for toxic and hard-to-handle products; however, local governments are unable to adequately finance these programs. The framework approach minimizes waste management costs to state and local government.

There will be some costs to Ecology associated with rule-making.

## **Relationship to Other Efforts**

Products likely to be addressed under this approach contain mercury or other toxic materials, and have significant implications for human health and water quality (including Puget Sound) if not handled appropriately at end-of-life.

## **3) Market Development for Diverted Organics**

The goal is to provide end uses for organics that have been diverted from the waste stream with an emphasis on optimizing the value of and developing markets for these materials. These recommendations are meant to function as both a stand alone recommendation and as complementary to the collections and environmentally responsible purchasing recommendations.

### **Description**

- The fundamental strategies to achieve this goal are to encourage anaerobic digestion and land application by providing/identifying financial incentives.
- Anaerobic digestion of putrescible organics including food scraps, manures and food processing wastes is encouraged through feed in tariffs and wheeling provisions.
- Use of composts and other organics is expanded on a municipal level by altering the existing purchasing language to permit all recycled organics regulated by Ecology to be used in municipal projects.
- Agricultural use of composts and other recycled organics suitable for land application is encouraged through subsidies to farmers to be administered by the State Conservation Districts.
- The State is encouraged to promote the use of existing carbon markets by municipalities and private entities as a means to partially subsidize organics diversions including food scrap composting and municipal and on farm anaerobic digestion. The Chicago Climate Exchange currently has such projects in Washington State.

### **Impacts on Goals**

Diversion of putrescible wastes has the potential to reduce 2.0 MMTCO<sub>2</sub>e \* through methane avoidance while also creating jobs, benefits and credits through production of green energy and valuable soil amendments.

The cost of diversion of food scraps is comparable to the cost of landfilling- suggesting that the \$ cost per ton of CO<sub>2</sub> for this program is minimal.

## **Additional Benefits**

Use of organic soil amendments increases soil carbon, improves water use efficiency, provides a substitute for synthetic fertilizers that require fossil fuels to produce, and improve soil tilth and product quality.

Anaerobic digestion and land application are complementary technologies.

These recommendations capture the value of both the carbon and the nutrients in material that has traditionally been landfilled.

## **Costs**

Costs for anaerobic digestion are covered by sale of energy to utility companies and other revenue sources such as sale of products (nutrient recovery and peat moss substitutes) and tip fees.

Changes to the purchasing rules require no additional costs; use of organics on land will require a new source of revenue.

Existing or in process protocols on functional carbon exchanges can provide an external source of revenue for these recommendations (i.e. the Chicago Climate Exchange).

## **Relationship to Other Efforts**

These actions rely on the public and private sectors and are complementary to recommendations by the Agriculture Carbon Market Work Group *[insert reference to Ag recommendations on organics and anaerobic digestion]*. Note that 0.5 MMTCO<sub>2</sub>e of digester measure is already accounted for by the Agriculture Carbon Market Work Group's digester measure and should be subtracted from this Organics summary if both measures are implemented.

## **4) Government Environmentally Responsible Purchasing**

This recommendation calls for establishing, through a Governor's Executive Order, an intergovernmental work group to evaluate the need for and recommend revisions to state purchasing laws, regulations and practices to ensure that products and services used by state and local government have the lowest possible environmental and carbon footprint for the consideration in the 2010 legislative session.

### **Description**

This action is about identifying barriers to environmentally responsible purchasing within current legislation and regulations and creating the legislated authorizing environment within which environmentally responsible purchasing (ERP) can be achieved. While the focus of the proposal is to reduce the carbon footprint of governmental purchasing, it is anticipated that proposed legislation would require that all purchases made with Washington state funds meet environmental performance characteristics, such as lowest possible GHG emissions and toxicity. Currently, government purchasing is based on three criteria 1) price, 2) availability and 3) physical performance. This recommendation aims to add a fourth criterion, environmental performance, to the list.

### **Impacts on Goals**

The opportunity to leverage a significant portion of the state's buying power to achieve noticeable GHG reductions by the state as a consumer, and to influence other consumers, was the rationale for selecting this action. The affect on reducing greenhouse gases is unknown at this point. As a major consumer of products and fossil fuels, the potential for reductions is significant.

## **Costs**

Actual costs of desired products and services may or may not be higher than more traditional products have been. However, when product comparisons include life cycle costs throughout the supply chain along with environmental costs, it is likely that products meeting environmental performance standards will be price competitive.

## **Other Impacts**

Local government will be affected by the statutory changes as well. Embedding environmentally responsible purchasing in state law will influence local governments by providing them the tools and authorities needed to integrate ERP into their own purchasing practices.

## **Relationship to Other Efforts**

Additional actions that should be included in the Executive Order are:

- Adopt the Electronic Product Environmental Assessment Tool (EPEAT) standards for all computers purchased by government
- Require the use of environmentally responsible office paper by all state agencies
- Establish standards for motor vehicles used by government related to environmental performance.

## **5) Collaborate with Retailers to Reduce Consumer Waste**

Establish a voluntary collaborative mechanism to set specific commitments by retailers to reduce the carbon foot-print of and waste from products and packaging they sell to consumers. Two likely initial targets are packaging and food waste.

### **Description**

- Waste prevention measures result in greater GHG emission reductions than recycling. The AW-3 strategy recommended by the CAT in 2007 envisioned an overall 15% waste reduction goal, in addition to increased recycling.
- At least 50% of household wastes come through retailers. Retailers would be asked to help the state meet an overall 15% reduction goal, as described in AW-3, through voluntary actions.
- Collaboration with retailers provides a unique opportunity to reach product producers and suppliers as well as consumers---because retailers have enormous influence on the products and packaging offered to consumers and have the most direct consumer contact.
- Projects often can be structured to also benefit retailers through, for example, reduced shipping costs by light-weighting packaging and less spoilage of food.
- A possible implementation mechanism is a memorandum of agreement with the Governor's office to set specific commitments to improve options to consumers and reduce product packaging. The two initial targets are packaging and food waste, though many other options will be considered.
- Food waste: nearly one-third of the food that is purchased is thrown away. The "Love Food, Hate Waste" campaign engages retailers and producers in developing packaging for longer safe food storage and information about how to store food properly.
- An example of a possible packaging initiative addresses wine bottles: in the glassrite bottle initiative retailers could work with wine producers to lightweight wine bottles.
- Both initiatives are based on successful UK programs.

## Impacts on Goals

Up to 400,000 metric tons of CO<sub>2</sub> equivalent could be eliminated if we reduced in-state food waste generation by half. (In the UK, reduced materials and energy use from the wine bottle initiative equated to 788,229 MMTCO<sub>2</sub>e reductions per year.

## Additional Benefits

Raising the profile of climate change with retailers and, through them, producers, suppliers and consumers has valuable education potential and could prompt these parties to make other more sustainable choices.

Initiatives have the potential to reduce costs to producers and retailers, e.g., by reducing shipping costs through more lightweight or efficient packaging.

This proposal is compatible with and complimentary to the product stewardship framework proposal.

## Costs

State collaborative effort, planning, technical support, outreach and education require a funding source.

Other costs and/or savings will be incurred by retailers and/or producers, and these costs or savings most likely will be passed to consumers in the purchase price of products. There are cost savings for retailers associated with many waste reduction activities, including less wastage of food.

There are cost savings for households associated with better product choice, less wastage of food and reduced waste to be disposed.

## Relationship to Other Efforts

This action relies completely on the ability of the state to actively engage retailers in collaborative efforts that appeal to the retail sector because of cost reduction or other benefits.

## Transportation [placeholder]

- a. Brief narrative describing the Transportation IWG emphasis, what the workgroup is trying to accomplish through this set of recommendations, how these recommendations tie into the following 2007 CAT headlines, the emphasis the CAT is giving these ideas, and potentially the future “game plan” for these ideas/the workgroup. (The full recommendations are contained in the Transportation IWG report, appended to this CAT report. The IWG report includes further analysis, design specificity, and implementation details for each recommendation.)
  - i. *Focus investments in Washington's transportation infrastructure to prioritize moving people and goods cleanly and efficiently. (Headline #7)*
  - ii. *Build and continue to redesign communities that offer real and reliable alternatives to single occupancy vehicles. (Headline #5)*
  - iii. *Ensure Washington has vehicles that are as efficient as possible and use non-carbon and lower carbon intensity fuels developed sustainably from regional resources (Headline #6) - TBD pending final outcomes of the group)*

- b. Brief summary of the Transportation IWG recommendations (approximately 1-page “cover sheet” per recommendation).

## SEPA [placeholder]

- a. Brief narrative describing the SEPA IWG emphasis, what the workgroup is trying to accomplish through this set of recommendations, how these recommendations tie into the following 2007 CAT headlines, the emphasis the CAT is giving these ideas, and potentially the future “game plan” for these ideas/the workgroup. (The full recommendations are contained in the SEPA IWG report, appended to this CAT report. The IWG report includes further analysis, design specificity, and implementation details for each recommendation.)
  - iv. *Analyze GHG emissions and mitigation options early in decision-making, planning processes, and development projects. (Headline #3)*
- b. Brief summary of the SEPA IWG recommendations (approximately 1-page “cover sheet” per recommendation).

## 1.4 Market-Based Mechanisms Are Critical For the Success of the Comprehensive Climate Approach

*[TBD - CAT collective statement on WCI (if developed, and in time to be included in the final report)]*

Reference 2007 CAT ‘Headline’: *Build market-based mechanisms to unleash investment in the creativity and innovation of Washington’s economy to deliver cost-effective emission reductions. (Headline #1)*

## 1.5 Estimating the Benefits and Impacts of the CAT’s Recommendations

The recommended actions and programs described in this report will significantly contribute to reductions in GHG emissions and/or VMT over time (for a full accounting of the GHG emissions reductions potential from all actions that Washington has already implemented or may implement in the future, see the final report by the State in response to ESSHB 2815<sup>8</sup>). For many of the recommendations, quantification of impacts is difficult to assess, due to the general nature of the recommendations or the lack of quantification tools. Recommendations that could be quantified ([##] of [##]) could yield [##] MMTCO<sub>2</sub>e in annual emissions reductions by 2020, assuming full and timely implementation. This amounts to a reduction of [##] percent below expected 2020 levels, after existing actions are taken into account.

This quantified GHG emission reduction potential is likely underestimated since all the recommendations contribute in one way or another to declining GHG emissions, but only for [##] of [##] the strategies could the reductions be reliably quantified. Many of these strategies also have significant benefit beyond emissions reductions, and contribute towards the State’s goals of creating a Clean Economy, supporting Washington industry, and reducing expenditures on imported fuel. Several strategies have other air

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<sup>8</sup>[Insert reference to 2815 report]

quality benefits and/or contribute to additional “quality of life” enhancements. *[Reference additional qualitative benefits of the strategies when taken as a whole as available.]* The GHG emission reductions that are quantified were done so in coordination with IWG co-leads and members, using consistent data sources, assumptions and clear presentation of results across the IWGs *[reference quantification approach memo in appendix]*.

To ensure consistency with the work accomplished by the State so far, and due to the lack of time and resources to redo that aspect of the analysis, the quantification of the 2008 recommendations was accomplished using the projections and assumptions from *Washington State’s GHG Inventory and Reference Case Projections, 1990-2020*<sup>9</sup>, which was also the basis for the analysis of the strategies recommended by the CAT in 2007. On the basis of this approach, with the exception of some of the transportation strategies (these differences are explained further in the Transportation IWG section, above), the emissions reduction potential analyzed for the 2008 CAT recommendations are fairly consistent with the results of the analysis of the 2007 CAT recommendations (for additional detail on the quantification of specific recommendations, see appendix [XX]).

However, developments since the 2007 interim CAT report will likely change the economic and GHG emissions outlook for the State, and the specific impact of the recommended actions. For example, significant increases in fuel prices and the current slowdown in economic activity are likely to continue to dampen driving behavior, business activity, personal consumption, and thus energy use and emissions. Gasoline consumption has already dropped [XX] percent over the past year; VMT has begun to decrease and may continue to decrease in ways that were not assumed to be likely last year. GHG emissions are now likely to increase more slowly than anticipated in either the CAT’s interim 2007 report or the State’s official inventory and forecast. Given the rapid pace at which economic and energy price outlooks have been changing, and the limited time available for the CAT’s work, the CAT has continued to use last year’s projections, while recognizing the potential impact of recent developments. In addition to lowering the rate of business-as-usual emissions growth, slower economic growth and high energy prices are likely to decrease the estimated emissions savings for some recommendations (at least in the short run) but increase the cost savings associated with both many of the CAT’s recommendations and existing actions already implemented by the State.

This report provides some clarity about whether emissions reductions are likely to occur in the State or otherwise “show up” in the State’s official inventory, as do emissions savings, for example, that result from reducing the emissions from electricity imported from generators outside the State. For example, transportation-related GHG emission reductions will occur largely within the State of Washington, which “count” towards the 2020 GHG emission reductions and will help the State meet its compliance budget if the State participates in the Western Climate Initiative cap and trade program. Reductions from some recommendations, primarily those dealing with goods that are consumed or disposed of in the state but produced outside the state, lead to emission savings outside the state. Because these reductions may not occur in the state, they may not be reflected in the State’s emission inventory and, while contributing towards reducing Washington’s lifecycle GHG emissions “footprint”, may not “count” towards the 2020 GHG emission reductions established by the Legislature in ESSHB 2815. However, such actions are a critical demonstration of Washington’s leadership in addressing climate change, represent important opportunities for sizeable emission reductions, and could prove critical on the long-term path to a global low-carbon economy.

*[Insert section summarizing NPV/direct “statewide” cost impacts (when available) and short discussion of differing perspectives on these assessments.]*

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<sup>9</sup> December, 2007. Available at

[www.ecy.wa.gov/climatechange/docs/WA\\_GHGInventoryReferenceCaseProjections\\_1990-2020.pdf](http://www.ecy.wa.gov/climatechange/docs/WA_GHGInventoryReferenceCaseProjections_1990-2020.pdf)

The CAT recognizes that there are significant public and private investments associated with many of its recommendations, even as there is often significant payback to society and to businesses from many of these recommendations. Some of the CAT's recommendations are designed to generate public revenue; many recommendations are also designed so that the direct users and beneficiaries of the strategy pay for their choices, thus reducing the net social costs of these strategies, while ensuring that any benefits also go to those who pay for the initial investment and/or choice. Other recommendations are designed to send pricing signals that both encourage changes in behavior and also may raise revenue for needed investments. The public costs associated with some of the recommendations result from the use of incentives in order to jump-start or accelerate sustainable changes needed to develop the Clean Economy.

The direct State implementation costs for some of the CAT's recommendations have been estimated *[cite examples from Transportation IWG, Beyond Waste, and EEGG based on the State's assessment of revenue impacts, as appropriate/available]*.

While the current economic challenges and the resulting declining public revenues may limit the public funding available in the near term to address the CAT's recommendations, these economic challenges underscores the importance of reevaluating existing budgets and reallocating existing resources to accomplish the work needed to meet the State's targets. As well, it emphasizes the importance of incorporating meeting the State's climate change targets as significant, "co-equal" criterion for the expenditure of public resources.

While the CAT's recommendations have been designed to ease the discernable financial burden that may fall on some parts of the economy or citizenry, as state, national, and global markets evolve to address climate change, and as choices are made and investments redirected accordingly, costs and benefits will inevitably be distributed unevenly to some sectors or interests. A key concern associated with these recommendations is that those in Washington communities with less money, often also the most vulnerable to climate change impacts, be shielded from negative consequences related to either climate change impacts or policy responses to limit these impacts.

## 1.6 2009 and Beyond: Fulfilling the Comprehensive Climate Approach

In 2008, the CAT has primarily focused on recommending the "most promising" next steps for Washington in four specific areas, covering XX# of the strategies recommended in 2007. As a result, in and of itself, this set of recommendations is not a comprehensive package to address all aspects of reducing GHG emissions. The CAT has not addressed every recommendation from its 2007 interim report in its 2008 deliberations, nor has the CAT identified or analyzed all potential strategies in each major sector of the economy.

### Actions Being Pursued Outside the 2008 CAT Process

Washington has implemented significant actions to date that reduce GHG emissions and continues its leadership to meet the challenge and seize the opportunity of addressing climate change and creating economic benefits. In particular, the following "Headline" recommendations from the CAT's 2007 interim report have moved forward in other venues:

- *Establish Emissions reporting so that progress in emission reductions can be tracked and acknowledged. (Headline #2)* This has moved forward through internal work by Ecology through its development of reporting rules. For more information, see ESSHB 2815 report, page [XX].
- *Invest in worker training for the emerging Clean Economy to ensure having a skilled workforce and to provide meaningful employment opportunities throughout the State.*

*(Headline #4)* Many of the CAT recommendations support development of green economy jobs, work to explicitly target and grow green economy jobs in Washington; the State has also moved forward through work carried out by CTED and other agencies in response to Legislative direction. For more information, see [XX].

- *Restore and retain the health and vitality of Washington's farms and forest lands to increase carbon sequestration and storage in forests and forest products, reduce the releases of GHG emissions, and support the provision of biomass fuels and energy. (Headline #10)* The Legislature established two working groups in ESSHB 2815 to address these critical issues. The CAT kept abreast of the progress of these groups and coordinated and referenced their work in its recommendations as relevant and appropriated. The full recommendations from the Forestry Carbon Market Workgroup and Agriculture Carbon Market Workgroup are available on page [XX] of the ESSHB 2815 report.

State agencies, the Legislature and others have already moved several of the specific 2007 CAT strategies forward<sup>10</sup>:

- *Quantification of GHG Impacts of Transportation Plans, Programs and Projects (T-5)* is being addressed by the Land Use Climate Change (LUCC) technical group authorized by the Legislature under Sections 2 and 3 of ESSB 6580 (*An Act Relating to mitigation the impacts of climate change through the growth management act*<sup>11</sup>), which will be provided in 2009.
- *In-State Production of Biofuels and Biofuels Feedstocks (AW-2)* is being addressed by Washington State University (WSU) and CTED. CTED is requesting legislation to extend the five tax preferences enacted in 2003 to promote the production of biofuels from wood biomass feedstocks, and WSU will be submitting a final report on December 1, 2008, in response to ESSHB1303 Section 402<sup>12</sup> to develop market incentives for the use of in-state biofuel.
- *Improved Forest Health (F-1)* is being addressed by DNR under its Forest Health Program, through which DNR provides technical assistance on tree and forest health care for a variety of public and private landowners, and conducts applied research and cooperative studies with universities and government agencies.
- *Expanded Urban and Community Forests (F-8)* is being addressed by DNR and CTED as required under the Urban Forestry Partnership established by ESSHB 2844.<sup>13</sup>
- *Grid-Based Renewable Energy Incentives and/or Barrier Removal (ES-1)* is being addressed in part by the energy credits associated with solar, wind, combined heat and power (CHP), and microturbines extended under the federal Emergency Economic Stabilization Act of 2008<sup>14</sup>, which also established new Clean Renewable Energy Bonds to finance a number of facilities generating renewable energy. In addition, a number of utilities in Washington are working with

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<sup>10</sup> Of the 45 mitigation strategies recommended by the CAT in 2007, 42 of them have been further advanced in some manner by the CAT and/or by the State outside the CAT process. The three specific options without any explicit action by the State or CAT in 2008 were *AW-8: Support for an Integrated Regional Food System*; *ES-4: Technology Research and Development, Plus Technology-Focused Initiatives*; and *RCI-5: Rate Structure and Technologies to Promote Reduced GHG Emissions (including decoupling of utility sales and revenues)*.

<sup>11</sup> *Addressing the impacts of climate change through the growth management act* (<http://apps.leg.wa.gov/documents/billdocs/2007-08/Pdf/Bills/Senate%20Passed%20Legislature/6580-S.PL.pdf>).

<sup>12</sup> *Encouraging the use of cleaner energy.* (<http://apps.leg.wa.gov/documents/billdocs/2007-08/Pdf/Bills/House%20Passed%20Legislature/1303-S2.PL.pdf>)

<sup>13</sup> *Regarding urban forestry.* (<http://apps.leg.wa.gov/documents/billdocs/2007-08/Pdf/Bills/House%20Passed%20Legislature/2844-S2.PL.pdf>)

<sup>14</sup> <http://financialservices.house.gov/>

the NW Solar Center on a Renewable Rate Recovery and Control approach to provide incentives for solar power.

- *Carbon Capture and Sequestration or Reuse (CCSR, including pre and post-combustion) Incentives, Requirements and/or Enabling Policies plus R&D (ES-5)* is being addressed in part by rules adopted by Ecology for geological carbon sequestration. The Federal Emergency Economic Stabilization Act of 2008 also provides \$1.5 billion in tax credit for carbon capture and sequestration and recovery (CCSR) demonstration projects as well as Carbon Dioxide Capture Credits of \$10-20/ton.
- *Transmission System Capacity, Access, Efficiency and Smart Grid (ES-6)* is being addressed in part by rules adopted by the Washington State Energy Facility Site Evaluation Council (FSEC) applicable to the construction, reconstruction, or modification of electrical transmission facilities, which are scheduled for adoption in October, 2008.
- *Targeted Financial Incentives and Instruments to Encourage Energy Efficiency Improvements (RCI-2)* is being addressed in part by SHB 3120,<sup>15</sup> which was enacted by the Legislature in 2008 and directed CTED to conduct a study of sales and use tax exemptions for certified residential and commercial construction. The research conducted as part of this effort has been reviewed and largely incorporated into the EEGIB IWG report.

## Other Potential Actions Still to be Considered

Given its focused scope in 2008, the CAT did not continue work on some recommendations from its 2007 interim report, but views the following as important, and areas to highlight for future work:

- *Adaptation is a critical component of a comprehensive response to climate change.* The CAT continues to believe that the State should assess how adaptation to the inevitable impacts of climate change should proceed, even as the key emphasis of the CAT in 2008 was again on mitigating the impacts of climate change. The State began an initial assessment of opportunities to prepare and adapt to climate change with the Preparation and Adaptation Working Groups (PAWG) in 2007. The CAT recommends that the State renew its efforts on adaptation in 2009 and beyond through a coordinated multi-agency effort. Governments, businesses and citizens need information, tools and resources to react to a potentially changing climate-impacted landscape. This response is critical to make informed planning decisions, to protect and restore natural systems, and to adjust the provision of basic services as necessary due to a warming planet.
- *Others to be identified at the CAT meeting*

## Conclusion

The recommendations developed by the 2008 CAT are designed to reach towards its vision for the future. There continues to be an urgent need for both immediate and sustained action over time for Washington to achieve its economic and GHG emission/VMT reduction targets for 2020 and beyond.

Climate change presents Washington with both enormous threats and substantial opportunities. The recommendations contained in this report point the way towards implementing significant efforts the CAT identified in its interim report that will allow governments, businesses and individuals in Washington to pursue opportunities, technologies, and choices that reduce carbon emissions in our economy and our daily lives. These recommendations build upon Washington's strengths, leverage going

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<sup>15</sup> Providing a sales and use tax exemption for environmentally certified residential and commercial construction. (<http://apps.leg.wa.gov/documents/billdocs/2007-08/Pdf/Bills/House%20Passed%20Legislature/3120-S.PL.pdf>)

quickly with going smartly, guide Washington's continued transition to a vibrant Clean Economy, and contribute significantly towards meeting the State's GHG emission and VMT reduction goals.

In order for these recommendations to be successfully implemented, the following four commitments need to be fulfilled:

- *Decisive and thoughtful leadership at all levels of government and in the private sector to prepare Washington to participate in the Clean Economy and ensure the success of Washington's response to climate change.*
- *Targeted investment in the infrastructure changes required to reduce carbon and spur innovation throughout Washington's economy.*
- *Protection and restoration of natural systems, including working farms and forests, to ensure the function and resiliency needed to both mitigate GHG emissions and adapt to the unavoidable consequences of some inevitable amount of climate change.*
- *Education, engagement and empowerment of the public to support the above and to generate the participation necessary to address climate change at the household and local business levels.*

The members of the CAT appreciate the privilege they have been given by the Governor to be on the CAT, and remain committed as individuals and collectively to help further advance these recommendations with the spirit of cooperation and intellectual integrity in which they were developed. We urge the Governor and the Legislature to continue to provide leadership on this issue, informed and guided by our findings. Our collective effort continues to be a strong sign that, by working together, we can meet the challenge we all face from global warming.

## **1.7 Appendices**

- i) List of CAT Members
- ii) Charge to CAT
- iii) List of IWG Members by IWG
- iv) Charge to IWGs
- v) Technical Analysis and Key Assumptions Memo
- vi) IWG Reports and Technical Analyses
  - (1) Beyond Waste IWG
  - (2) Energy Efficiency/Green Buildings IWG
  - (3) SEPA IWG
  - (4) Transportation IWG